**In the Specification**

Please insert the following paragraph, beginning on page 12, line 28:

Consistent with the scope and spirit of the present invention, other embodiments are also provided. In one embodiment, a computer readable medium is provided for enabling communicating one or more asynchronous transfer mode (ATM) cells from a transmitting device to a receiving device via a network. In this embodiment, the computer readable medium comprises a set of executable instructions adapted to manipulate a processor to: determine, for a first ATM cell, an index based at least in part on a header of the first ATM cell; identify a first entry of a first header table using the index, the first header table being maintained by the transmitting device and having a plurality of entries storing header data; replace the header of the first ATM cell with a reduced header to generate a reduced ATM cell based at least in part on a comparison of the header of the first ATM cell with header data stored at the first entry of the first header table, wherein the reduced header includes index data; and provide the reduced ATM cell for transmission to receiving device.

In other embodiments, the header of the first ATM cell is replaced with the reduced header when the header of the first ATM cell substantially matches the header data stored at the first entry of the first header table.

In other embodiments, the computer readable medium further comprises executable instructions adapted to manipulate the processor to: determine, for a second ATM, a second index based at least in part on a header of the second ATM cell; identify a second entry of the first header table using the second index; provide the second ATM cell for transmission to the receiving device when the header of the second ATM cell does not substantially match header data stored at the second entry of the first header table.

In other embodiments, the computer readable medium further comprises executable instructions adapted to manipulate the processor to: store the header of the first ATM cell at the first entry of the first header table when the first entry is empty; and provide a second ATM cell for transmission to the receiving device, the second ATM cell including a data representative of at least part of the first header table including the first entry.

In still other embodiments, the executable instructions are adapted to manipulate the processor to determine the index include executable instructions to manipulate the processor to perform a hash function on at least part of the header of the first ATM cell. More specifically, the hash function is represented by an equation: 7 HASH ( x ) = ( i = 1 4 B i & 0 x 70 ) 4 where HASH(x) represents the index, $B_i$ represents byte i of the header of the first ATM cell for i=0 to 4.

In yet another embodiment, a computer readable medium is provided for enabling communicating one or more asynchronous transfer mode (ATM) cells from a transmitting device to a receiving device, the computer readable medium comprising a plurality of executable instructions adapted to manipulate a processor to: receive, at the receiving device, a first reduced ATM cell having a reduced header from the transmitting device, the reduced header including index data; identify a first entry of a first header table using the index data, the first header table being maintained by the receiving device and having a plurality of entries storing header data; and replace the reduced header of the first reduced ATM cell with header data stored at the first entry of the first header table to generate an unreduced ATM cell.

In certain embodiments, the index data is derived at least in part from an unreduced representation of the reduced header of the first reduced ATM cell. In other embodiments,

the index data is derived from an application of a hash function to at least part of the unreduced representation of the reduced header. In addition, the hash function is represented by an equation: 8 HASH ( x ) = ( i = 1 4 B i & 0 x 70 ) 4 where HASH(x) represents the index data, $B_i$ represents byte i of the header for i=0 to 4.

In other embodiments, the computer readable medium further comprises executable instructions adapted to manipulate the processor to: receive, at the receiving device, a second ATM cell, the second ATM cell having data representative of at least part of a table of one or more headers; and update one or more entries of header table based at least in part on the data representative of at least part of the table of one or more headers.